



HYGIENETECH

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April 2, 2010

State of California
Board of Equalization
450 N Street
Sacramento, California 94279

Document No. 20911001.1

Attention: David Gau

Regarding: Limited Indoor Air Quality Survey
15TH Floor Pre-Occupancy Assessment

Dear Mr. Gau:

On November 3, 2009, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 15th Floor of the State of California State Board of Equalization (BOE) building located at the above mentioned address. This survey was performed in response to BOE's need to reoccupy the 15th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. At the time of the survey, various samples were collected and direct-reading instruments were used to assess the general indoor air quality. I have enclosed our report, which included general observations, sample and direct-reading results, a discussion of the data, conclusions, and recommendations.

If you have any comments or questions regarding the information contained in this report, please do not hesitate to contact our offices directly at (310) 370-8370.

Sincerely,

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

Brian P. Daly, CIH, PE
President



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**LIMITED INDOOR AIR QUALITY SURVEY
PRE-OCCUPANCY ASSESSMENT – 15TH FLOOR**

**450 N STREET
SACRAMENTO, CALIFORNIA**

PREPARED FOR:

**STATE OF CALIFORNIA
BOARD OF EQUALIZATION
450 N STREET
SACRAMENTO, CALIFORNIA**

PREPARED BY:

**HYGIENE TECHNOLOGIES INTERNATIONAL, INC.
3625 DEL AMO BOULEVARD, SUITE 180
TORRANCE, CALIFORNIA**

APRIL 2, 2010



1.0 BACKGROUND

On November 3, 2009, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 15th Floor of the State of California State Board of Equalization (BOE) building located at 450 N Street in Sacramento, California. This survey was performed in response to BOE's need to reoccupy the 15th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. During the survey, a variety of samples were collected and direct-reading instruments were used to assess the general indoor air quality on the 15th Floor of the subject building. Various air samples were collected in order to assess fungal growth exposure potentials. In addition, air samples were collected throughout the floor for fibrous dust, 4-phenylcyclohexene, formaldehyde, and total dust analysis. Direct-reading instruments were also used to determine airborne volatile organic compounds (VOCs), carbon dioxide (CO₂), air temperature, and relative humidity.

2.0 OBSERVATIONS

The interior building materials of the 15th Floor included, but were not limited to, metal window frames; painted gypsum board and/or metal windowsills; metal doorjambs and door frames; painted gypsum board walls in the general work areas; tile covered walls and painted gypsum board ceilings in the restrooms; suspended 2' by 4' ceiling tiles and or gypsum board ceilings in the general work areas; and ceramic or vinyl tile flooring in the restrooms and break rooms.

The floor was unoccupied on the survey dates but was furnished with typical office desks, upholstered chairs, shelves, fabric covered cubicles, and other general office items. Note that new carpet had been installed and fresh paint had been applied throughout the floor in the weeks preceding the survey date.

3.0 SAMPLING AND ANALYSIS

Air samples were collected and subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. Other samples were collected for airborne fibers, 4-phenylcyclohexene, formaldehyde, and total dust determinations using either SKC[®] brand Airchek[®] 52 sampling pumps or Gast high volume air sampling pumps and the appropriate sampling media. Pump flow rates were established and verified using a BIOS DryCal DC-Lite primary flow meter. Those samples were collected and analyzed along with blanks (identical sampling media through which no air was drawn) at laboratories accredited by the American Industrial Hygiene Association (AIHA) through successful participation in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program. Direct-reading instruments were used to determine airborne VOC levels, the results of which appear in Table 20911001-8 in Appendix A of this report. A discussion of the airborne CO₂ data, along with air temperature and relative humidity results, appears in Section 4.0 of this report. Additional information concerning the specific sampling and analytical methods appears below.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.1 Airborne Total Fungi

Air samples for airborne total (viable and nonviable) fungi determinations were collected using a Zefon brand Bio-Pump™ equipped with Air-O-Cell™ cassettes. All such samples were collected at various indoor locations and two samples were collected outdoors on for comparison purposes. The resultant data, which are presented in spores per cubic meter of air (spores/M³), appear in Table 20911001-3.

3.2 Airborne Fibrous Dust

Area air samples for fibrous dust were collected at stationary locations on 25-millimeter diameter, 0.8-micrometer pore size, mixed cellulose ester filters. The samples were analyzed by phase contrast microscopy (PCM) in accordance with the NIOSH Method 7400. These data are presented in fibers per cubic centimeter (f/cc) of air in Table 20911001-4.

3.3 Airborne Total Dust

Area air samples for total dust determination were collected at stationary locations on filter cassettes containing pre-weighed 37-millimeter diameter, polyvinyl chloride filters having a pore size of five micrometers. The samples were analyzed by gravimetric method in accordance with the NIOSH Method 0500. These data are presented in milligrams per cubic meter of air (mg/M³) and appear in Table 20911001-5.

3.4 Formaldehyde

Area air samples were collected for formaldehyde determinations using DNPH silica gel sorbent tubes. The analyses were performed by high performance liquid chromatography using an ultraviolet detector in accordance with a modified NIOSH Method 2016. These data are presented in parts per million (ppm) and appear in Table 20911001-6.

3.5 Airborne 4-Phenylcyclohexene

Area air samples for 4-phenylcyclohexene were collected by the mini-canisters that were equipped with 6 hour regulators, and each sample was analyzed by gas chromatography with mass spectrometry detection (GC-MS) in accordance with the modified OSHA PV2120/U.S. EPA Method TO15. These data are presented in parts per billion volume (ppbv) and appear in Table 20911001-7.

3.6 Airborne Volatile Organic Compounds

Direct-reading air measurements for VOCs were also recorded at various locations on the 15th Floor using a RAE Systems, Inc. Mini-RAE 2000 photoionization detector, which is capable of detecting a wide variety of unsaturated hydrocarbons at airborne concentrations ranging from 0.1 to 10,000 parts per million (ppm). Prior to the survey, this instrument was calibrated using a 100-ppm isobutylene gas standard. These data are presented in ppm.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.7 Airborne Carbon Dioxide

Direct-reading air measurements for airborne CO₂ concentration was recorded at a stationary location using a Telaire® 7001 Carbon Dioxide and Temperature Monitor along with the HOBO® data logger. The data are presented in ppm.

3.8 Air Temperature and Relative Humidity

Air temperature and relative humidity data were recorded at stationary locations using a Telaire® 7001 Carbon Dioxide and Temperature Monitor along with the HOBO® data logger.

4.0 DISCUSSION

4.1 Airborne Total Fungi

The airborne total fungi data showed mostly common spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Bipolaris/Drechslera* group, *Cladosporium*, colorless spores typical of *Penicillium* and *Aspergillus* species, *Epicoccum*, *Nigrospora*, rusts, smuts, and/or *Stemphylium*, with basidiospores predominating. Indoors, the ambient data showed that airborne fungal spores were either not detected at or above the laboratory analytical detection limit or were detected at low airborne concentrations. The airborne fungal spores detected indoors included basidiospores and *Cladosporium*. Indoors, the distribution of fungal spore types detected in the surveyed areas was consistent with those found outdoors, and the overall data within the tested areas were well below the overall data recorded outdoors. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

4.2 Airborne Fibrous Dust

The data recorded in the surveyed areas indicated that airborne fibrous dusts were not detected at or above the laboratory detection limit of 0.003 f/cc. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data, which are expected to represent employee *exposure potentials* to fibers of various types, including man-made and natural mineral fibers, cellulose (paper or wood composition), gypsum, and other fibrous dusts common in the environment, are well below the current Cal-OSHA 8-hour TWA PEL for asbestos fibers of 0.1 f/cc, the most restrictive exposure limit for fibrous dusts.

4.3 Airborne Total Dust

Common dust that is typically identified in buildings usually contains a wide variety of materials including, but not limited to, gypsum crystals, cellulosic particles, fiberglass fragments, mineral grains from soil, fungi spores, fine glass fibers, textile and wood fibers, iron or steel fragments, dead skin cells, insect parts, animal dander, and pollens. Generally, exposure to low levels of such materials



4.0 DISCUSSION (CONTINUED)

4.3 Airborne Total Dust (Continued)

does not produce ill effects in most persons. In fact, these so-called *nuisance dusts* have a long history of little adverse effect to the lungs and are not known to produce significant diseases or toxic effects, such as collagen (scar tissue) formation, when exposure are kept under reasonable control.

The data recorded in the surveyed areas showed that airborne total dust was not detected at or above the laboratory analytical detection limits indicated. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for total dust of 10 mg/M³, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155). Note that these data are also well below the American Conference of Governmental Industrial Hygienists 8-hour TWA threshold limit value (TLV-TWA) for particulate (not otherwise classified) of 10 mg/M³; the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Primary Standard of 0.26 mg/M³ (24-hour standard); and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) theoretical value for non-occupational environments of 1/10 of the TLV.

4.4 Formaldehyde

The data recorded in the surveyed areas indicated that airborne formaldehyde was detected at levels of 0.01 and 0.02 ppm. Because these samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for Formaldehyde of 0.75 ppm, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155).

4.5 Airborne 4-Phenylcyclohexene

The airborne data indicated that 4-phenylcyclohexene was not detected at or above the laboratory analytical detection limits indicated. Although current standards or guidelines have not been established for 4-phenylcyclohexene at the time of this report, all such data are considered unremarkable.

4.6 Airborne Volatile Organic Compounds

With the use of a direct-reading photoionization detector, VOCs were either not detected at or above the instrument detection limit of 0.1 ppm, or were detected at levels ranging from 0.1 to 1.0 ppm. Because these data were recorded at stationary locations at approximate breathing zone height, the results are expected to represent building occupant *exposure potentials* for those persons occupying or passing through the areas monitored. These data were well below the surrogate Cal-OSHA PELs that are often used for comparative purposes regarding VOC exposures, such as those for gasoline, hexane, and varnish makers and painters (VM&P) naphtha.



4.0 DISCUSSION (CONTINUED)

4.7 Airborne Carbon Dioxide

On November 3, 2009, the direct-reading results indicated that CO₂ was detected at levels ranging from 542 to 649 ppm on the 15th Floor. While these data were somewhat higher than the expected outdoor CO₂ levels, which generally range between 320 and 350 ppm, they are considered normal for indoor environments and they are all well below the Cal-OSHA 8-hour TWA PEL for CO₂ of 5000 ppm (T8, CCR, § 5155). They are also below the level of 1000 ppm, which is essentially equivalent to the recommended upper limit for building occupant comfort and odor control established by ASHRAE (not greater than 700 ppm above the outdoor CO₂ value) as stated in ASHRAE 62-2001.

Based on historic studies performed by HygieneTech, building occupant complaints of "stuffy" air often begin when CO₂ levels exceed 800 ppm. HygieneTech has also found that some sensitive persons may experience discomfort, including eye irritation and headache, when CO₂ levels reach 1,000 ppm. Such symptoms are not believed to be the result of an unhealthful exposure to CO₂; rather, they are thought to be the result of exposure to other common indoor air pollutants which, if not exhausted and/or diluted, can accumulate over time.

4.8 Air Temperature and Relative Humidity

On November 3, 2009, the air temperatures ranged between 71.1 and 78.0 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer).

Relative humidity data were recorded indoors at levels ranging from 33.9 to 41.8 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.

5.0 CONCLUSIONS

- 5.1 The airborne total fungi data recorded in the surveyed areas showed airborne fungi levels that were below those recorded outdoors and therefore considered unremarkable. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.
- 5.2 The airborne total and fibrous dust, 4-phenylcyclohexene, formaldehyde, VOC, and CO₂ levels recorded during the survey were unremarkable. Collectively, the data were well below applicable Cal-OSHA 8-hour TWA PELs and/or other occupational, non-occupational, ASHRAE, or foreign guidelines. The data are not expected to represent conditions that pose a measurable health risk to the building occupants.



5.0 CONCLUSIONS (CONTINUED)

- 5.3 On November 3, 2009, air temperatures ranged between 71.1 and 78.0 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer). Relative humidity data were recorded indoors at levels ranging from 33.9 to 41.8 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.
- 5.4 Be advised that the data provided in this report only represent fungal growth exposure potentials that existed at the time the survey was performed and at the precise sample locations only, the latter of which were selected based on the available background information provided. Note that fungal growth and exposure potentials may change due to changes in environmental conditions (such as those caused by water intrusion), use of mechanical systems, or other factors. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the survey.

6.0 RECOMMENDATIONS

All such recommendations are based strictly on the assessment information and analytical data that were available to HygieneTech at the time this report was prepared. Be advised that, in order to establish data that accurately reflects all the fungal growth sites on the 15th Floor, additional assessment evaluations may be required as more information is known regarding the history of water intrusion episodes in discrete building areas.

- 6.1 Additional fungal growth remediation is potentially required within the core of the 15th Floor due to known fungal growth reservoirs confirmed in similar areas on other floors during destructive testing, as stated by LaCroix Davis, LLC in their *California State Board of Equalization Building Assessment – Final Report* dated February 29, 2009. The purpose of this assessment was to allow the BOE to safely reoccupy the 15th Floor. Until such time that these confirmed fungal growth and perhaps other unknown reservoirs are remediated within the structure, it is highly likely that complaints related to fungal growth-like odors, which has been a common concern on several floor, will continue to be an issue. The HygieneTech investigation into the odor complaints, conclusions, and recommendations can be found in HygieneTech Document No. 20903001.1 dated May 4, 2009.
- 6.2 If not yet established, an accurate record of all air monitoring results should be maintained in accordance with Cal-OSHA regulation found in T8, CCR § 3204. All affected employees should be informed that the *exposure potential* data in this report exist and that those persons, or their representatives, have a right to access relevant exposure data and medical records.
- 6.3 Air temperatures levels on the 15th Floor should be adjusted to the appropriate ranges recommended by ASHRAE for occupant comfort.



6.0 RECOMMENDATIONS (CONTINUED)

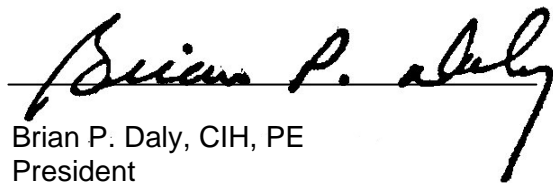
- 6.4 Also be advised that the exposure data recorded during the survey may not be sufficiently broad to adequately assess the suitability of the indoor air quality for all individuals, particularly those who are extremely sensitive to certain chemical and/or biological substances or for those individuals with immune system deficiencies. Although not expected, if persons occupying or passing through the 15th Floor do experience non-specific ill effects of unknown etiology, then those affected should be referred to a medical professional in order to determine or specify the possible cause(s) of such reactions. If more information becomes available, further investigation and air monitoring may be warranted.

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.



Kenny K. Hsi, CIH
Technical Director

Date: April 2, 2010



Brian P. Daly, CIH, PE
President

Date: April 2, 2010

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

APPENDIX A



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Board of Equalization
450 N Street
Sacramento, California 94279

TABLE 20911001-3
AIRBORNE TOTAL FUNGI RESULTS
15TH FLOOR
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

Page 1

Results reported in spores per cubic meter of air (spores/M³)

SAMPLE NUMBER	20911001-TM01OUTSM	20911001-TM02SM	20911001-TM03SM	20911001-TM04SM
SAMPLING LOCATION/ACTIVITIES	Outdoors; about 25 feet north of building; approximately five feet above ground/Normal outdoor activities	Between Columns N21 and N22; Cubicle 143; approximately five feet above floor/Sampling activities only	Between Columns N19 and N20; Cubicle 17; about center; approximately five feet above floor/Sampling activities only	Column N18 area; Cubicle 22; approximately five feet above floor/Sampling activities only
START/STOP	9:08:00/9:13:00	9:35:00/9:40:00	9:45:00/9:50:00	10:01:00/10:06:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	53			
Ascospores	210			
Aureobasidium				
Basidiospores	13,000		53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	6,200		53	
Curvularia				
Epicoccum	40			
Fusarium				
Nigrospora	170			
Oidium				
Other brown				
Penicillium/Aspergillus types	2,800			
Rusts	13			
Smuts, Periconia, Myxomycetes	93			
Stachybotrys				
Stemphylium	13			
Torula				
Trichocladium				
Ulocladium				
Zygomycetes				
Hyphal fragments	190	<13	<13	<13
Background debris*	4+	1+	1+	1+
TOTAL **	22,000	<13	110	<13

*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

**Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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APPENDIX A



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TABLE 20911001-3
AIRBORNE TOTAL FUNGI RESULTS
15TH FLOOR
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

Page 2

Results reported in spores per cubic meter of air (spores/M³)

	20911001-TM05SM	20911001-TM06SM	20911001-TM07SM	20911001-TM08SM
SAMPLING LOCATION/ACTIVITIES	East of column L18; Cubicle 49; about center; approximately five feet above floor/Sampling activities only	Between column K18 and K19; Cubicle 107; about center; approximately five feet above floor/Sampling activities only	Between column K20 and K21; Cubicle 97; about center; approximately five feet above floor/Sampling activities only	Column K22 area; Cubicle 90; approximately five feet above floor/Sampling activities only
START/STOP	10:17:00/10:22:00	10:26:00/10:31:00	10:34:00/10:39:00	10:43:00/10:48:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Ascospores				
Aureobasidium				
Basidiospores			53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium				
Curvularia				
Epicoccum				
Fusarium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Rusts				
Smuts, Periconia, Myxomycetes				
Stachybotrys				
Stemphylium				
Torula				
Trichocladium				
Ulocladium				
Zygomycetes				
Hyphal fragments	13	<13	<13	<13
Background debris*	1+	2+	2+	2+
TOTAL**	<13	<13	53	<13

*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

**Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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TABLE 20911001-3
AIRBORNE TOTAL FUNGI RESULTS
15TH FLOOR
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

Page 3

Results reported in spores per cubic meter of air (spores/M³)

SAMPLE NUMBER	20911001-TM09SM	20911001-TM10OUTSM		
SAMPLING LOCATION/ACTIVITIES	West of M-22 column area; Cubicle 169; about center; approximately five feet above floor/Sampling activities only	Outdoors; about 25 feet north of building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank
START/STOP	10:51:00/10:56:00	11:04:00/11:09:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria		13		
Ascospores		270		
Aureobasidium				
Basidiospores		19,000		
Bipolaris/Drechslera group		13		
Botrytis				
Chaetomium				
Cladosporium		3,700		
Curvularia				
Epicoccum		13		
Fusarium				
Nigrospora		160		
Oidium				
Other brown				
Penicillium/Aspergillus types		2,900		
Rusts		13		
Smuts, Periconia, Myxomycetes		40		
Stachybotrys				
Stemphylium		13		
Torula				
Trichocladium				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	53		
Background debris*	1+	4+		
TOTAL**	<13	26,000		

*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

**Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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APPENDIX A



TABLE 20911001-4
15TH FLOOR
AIRBORNE FIBERS RESULTS
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (f/cc)	PEL (f/cc)
Area Sample	Column N21 area; Cubicle 143; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-03WF	07:33/ 11:33	240 minutes	Fibers	< 0.003	0.1
Area Sample	Column M22 area; Cubicle 169; approximately five feet above floor/Sampling activities only	N/A	20911001-04WF	07:38/ 11:38	240 minutes	Fibers	<0.003	0.1
Area Sample	Column L18 area ; Cubicle 48; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-05WF	11:34/ 15:34	240 minutes	Fibers	<0.003	0.1
Area Sample	Column K20 area; Cubicle 98; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-06WF	11:39/ 15:39	240 minutes	Fibers	<0.003	0.1
Blank	N/A	N/A	20911001-07WF BLANK	N/A	N/A	Fibers	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

f/cc: Fibers per cubic centimeter of air

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450 N Street
Sacramento, California 94279

APPENDIX A



TABLE 20911001-5
15TH FLOOR
AIRBORNE TOTAL DUST RESULTS
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/M ³)	PEL (mg/M ³)
Area Sample	Column M22 area; Cubicle 169; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-08WF	08:20/ 12:20	240 minutes	Total Dust	<0.21	10
Area Sample	Column N21 area; Cubicle 135; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-09WF	08:23/ 12:23	240 minutes	Total Dust	<0.21	10
Area Sample	Column L18 area; Cubicle 49; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-10WF	08:26/ 12:26	240 minutes	Total Dust	<0.21	10
Area Sample	Column K20 area; Cubicle 97; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-11WF	08:29/ 12:29	240 minutes	Total Dust	<0.21	10
Blank	N/A	N/A	20911001-12WF BLANK	N/A	N/A	Total Dust	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment
N/A: Not applicable
mg/M³: Milligrams per cubic meter

<: Less than
PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

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APPENDIX A



**TABLE 20911001-6
15TH FLOOR
AIRBORNE FORMALDEHYDE RESULTS
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009**

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	PEL (ppm)
Area Sample	Column M22 area; Cubicle 169; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-13WF	14:34/ 15:49	75 minutes	Formaldehyde	0.01	0.75
Area Sample	Column N21 area; Cubicle 135; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-14WF	14:37/ 15:52	75 minutes	Formaldehyde	0.01	0.75
Area Sample	Column L18 area; Cubicle 49; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-15WF	14:43/ 15:58	75 minutes	Formaldehyde	0.02	0.75
Area Sample	Column K20 area; Cubicle 97; about center; approximately five feet above floor/Sampling activities only	N/A	20911001-16WF	14:45/ 16:00	75 minutes	Formaldehyde	0.01	0.75
Blank	N/A	N/A	20911001-17WF Blank	N/A	N/A	Formaldehyde	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment
N/A: Not applicable
ppm: Parts per million

<: Less than
PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

CLIENT: State of California
Board of Equalization
450 N Street
Sacramento, California 94279

APPENDIX A



TABLE 20911001-7
15TH FLOOR
AIRBORNE 4-PHENYLCYCLOHEXENE RESULTS
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (ppbv)	PEL (ppm)
Area Sample	Computer Training Room 1506; about center; approximately three feet above floor/Sampling activities only	N/A	20911001-01WF	07:25/ 13:25	360 minutes	4-Phenylcyclohexene	<2.0	N/A
Area Sample	Column N21 area; Cubicle 143; approximately three feet above floor/Sampling activities only	N/A	20911001-02WF	07:30/ 13:30	360 minutes	4-Phenylcyclohexene	<1.0	N/A

LEGEND

PPE: Personal protective equipment
N/A: Not applicable
PPBV: Parts per billion volume

<: Less than
PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

APPENDIX A



**CLIENT: California State
Board of Equalization
450 N Street
Sacramento, California 94279**

**TABLE 20911001-8
DIRECT-READING RESULTS
15TH FLOOR
SACRAMENTO, CALIFORNIA
NOVEMBER 3, 2009**

LOCATION/SITE ACTIVITIES	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	COMMENTS
Northern quadrant; approximately five feet above floor/Sampling activities only	9:09/9:14	Volatile Organic Compounds	Average: 0.1 Peak: 0.2	N/A
Western quadrant; approximately five feet above floor/Sampling activities only	9:15/9:20	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A
Eastern quadrant; approximately five feet above floor/Sampling activities only	9:21/9:26	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A
Southern quadrant; approximately five feet above floor/Sampling activities only	9:27/9:32	Volatile Organic Compounds	Average: 0.1 Peak: 0.2	N/A
Northern quadrant; Copy Room 1503; about center; approximately five feet above floor/Sampling activities only	9:33/9:38	Volatile Organic Compounds	Average: 0.4 Peak: 0.6	N/A
Northern quadrant; Break Room 1504; about center; approximately five feet above floor/Sampling activities only	9:39/9:44	Volatile Organic Compounds	Average: 0.6 Peak: 1.0	N/A
Southern quadrant; Storage Room 15B; about center; approximately five feet above floor/Sampling activities only	9:45/9:50	Volatile Organic Compounds	Average: 0.6 Peak: 1.0	N/A
Southern quadrant; Janitor Closet; about center; approximately five feet above floor/Sampling activities only	9:51/9:56	Volatile Organic Compounds	Average: 0.4 Peak: 0.6	N/A
Southern quadrant; Break Room 1508; about center; approximately five feet above floor/Sampling activities only	9:57/10:02	Volatile Organic Compounds	Average: 0.6 Peak: 1.0	N/A

LEGEND

ND: Not detected
<: Less than

N/A: Not applicable
ppm: Parts per million



HYGIENETECH

Hygiene Technologies International, Inc.



000598147

3625 Del A.

Torrance, California 90503-1643

(310) 370-8370

(310) 370-2474 FAX

www.hygienetech.com

Request For Analysis

Project Number/Purchase Order: 20911001 Date Submitted: 11/03/09
Project Contact: WES FREY Turnaround Required: 24 hrs
Lab Destination: EM LAB Lab Contact: SAMPLE RECEIVING

SAMPLE ID	VOLUME	MEDIA	ANALYSIS REQUESTED
20911001 TM01OUTSM	75L	Air-o-Cell	SPORE TRAP
20911001 TM02SM			
20911001 TM03SM			
20911001 TM04SM			
20911001 TM05SM			
20911001 TM06SM			
20911001 TM07SM			
20911001 TM08SM			
20911001 TM09SM			
20911001 TM10OUTSM	↓	↓	↓

Special Instructions: _____

1. Sampled by: SM 11/03/09 13:25 Received by: _____
2. Relinquished by: SM 11/03/09 15:41 Received by: Heandlin on 11/3/09 15:41
3. Relinquished by: _____ Received by: Brandon Dehan 11/4/09 0730
Please include signature, date, and time

Lab Use Only:



EMLab P&K

Report for:

Mr. Wesley Frey
Hygiene Technologies International, Inc.: Northern California
3625 Del Amo Boulevard, Suite 180
Torrance, CA 90503-8370

Regarding: Project: 20911001
 EML ID: 598147

Approved by:

Lab Manager
Malcolm Moody

Dates of Analysis:
Spore trap analysis: 11-05-2009

Project SOPs: Spore trap analysis (I100000)

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	20911001-TM01OUTSM		20911001-TM02SM		20911001-TM03SM		20911001-TM04SM	
Comments (see below)	A		B		None		B	
Lab ID-Version†:	2653182-1		2653183-1		2653184-1		2653185-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	4	53						
Arthrinium								
Ascospores*	4	210						
Aureobasidium								
Basidiospores*	241	13,000			1	53		
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	252	6,200			1	53		
Curvularia								
Epicoccum	3	40						
Fusarium								
Myrothecium								
Nigrospora	13	170						
Other colorless								
Penicillium/Aspergillus types†	99	2,800						
Pithomyces								
Rusts*	1	13						
Smuts*, Periconia, Myxomycetes*	7	93						
Stachybotrys								
Stemphylium	1	13						
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	4+		1+		1+		1+	
Hyphal fragments/m3	190		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		< 1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		22,000		< 13		110		< 13

Comments: A) 180 of the raw count *Cladosporium* spores were present as a single clump. 62 of the raw count *Penicillium/Aspergillus* type spores were present as a single clump. B) No spores detected.

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

‡ A "Version" greater than 1 indicates amended data.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.
TestAmerica Environmental Microbiology Laboratory, Inc.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	20911001-TM05SM		20911001-TM06SM		20911001-TM07SM		20911001-TM08SM	
Comments (see below)	B		B		None		B	
Lab ID-Version‡:	2653186-1		2653187-1		2653188-1		2653189-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria								
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*					1	53		
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium								
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		2+		2+		2+	
Hyphal fragments/m3	13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		< 13		< 13		53		< 13

Comments: B) No spores detected.

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

‡ A "Version" greater than 1 indicates amended data.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.
TestAmerica Environmental Microbiology Laboratory, Inc.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	20911001-TM09SM		20911001-TM10OUTSM	
Comments (see below)	B		C	
Lab ID-Version‡:	2653190-1		2653191-1	
	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria			1	13
Arthrinium				
Ascospores*			5	270
Aureobasidium				
Basidiospores*			357	19,000
Bipolaris/Drechslera group			1	13
Botrytis				
Chaetomium				
Cladosporium			69	3,700
Curvularia				
Epicoccum			1	13
Fusarium				
Myrothecium				
Nigrospora			12	160
Other colorless				
Penicillium/Aspergillus types†			168	2,900
Pithomyces				
Rusts*			1	13
Smuts*, Periconia, Myxomycetes*			3	40
Stachybotrys				
Stemphylium			1	13
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	1+		4+	
Hyphal fragments/m3	< 13		53	
Pollen/m3	< 13		27	
Skin cells (1-4+)	1+		< 1+	
Sample volume (liters)	75		75	
§ TOTAL SPORE/m3		< 13		26,000

Comments: B) No spores detected. C) 151 of the raw count *Penicillium/Aspergillus* type spores were present as a clump of 44 and a clump of 107 spores.

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for sample volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

‡ A "Version" greater than 1 indicates amended data.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.
TestAmerica Environmental Microbiology Laboratory, Inc.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldRANGE™: Extended Outdoor Comparison**Outdoor Location: 20911001-TM01OUTSM**

Fungi Identified	Outdoor data	Typical Outdoor Data by Date†				Typical Outdoor Data by Location‡			
		Month: November				State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	53	7	27	290	51	7	27	230	57
Bipolaris/Drechslera group	-	7	13	190	19	7	13	130	13
Chaetomium	-	7	13	210	12	7	13	120	19
Cladosporium	6,200	27	590	11,000	95	53	640	6,800	97
Curvularia	-	7	22	790	19	7	13	230	7
Epicoccum	40	7	13	230	25	7	13	160	20
Nigrospora	170	7	13	210	19	7	13	170	8
Penicillium/Aspergillus types	2,800	27	230	3,000	83	33	210	2,500	85
Stachybotrys	-	7	13	270	3	7	13	280	5
Stemphylium	13	7	13	67	5	7	13	67	9
Torula	-	7	13	130	10	7	13	150	12
Seldom found growing indoors**									
Ascospores	210	13	110	2,900	75	13	110	1,900	71
Basidiospores	13,000	13	370	17,000	93	13	210	7,100	93
Rusts	13	7	13	280	24	7	13	250	28
Smuts, Periconia, Myxomycetes	93	7	53	750	73	8	40	490	70
TOTAL SPORES/M3	22,592								

† The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

‡ The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

*The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

**These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldRANGE™: Extended Outdoor Comparison**Outdoor Location: 20911001-TM10OUTSM**

Fungi Identified	Outdoor data	Typical Outdoor Data by Date†				Typical Outdoor Data by Location‡			
		Month: November				State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	13	7	27	290	51	7	27	230	57
Bipolaris/Drechslera group	13	7	13	190	19	7	13	130	13
Chaetomium	-	7	13	210	12	7	13	120	19
Cladosporium	3,700	27	590	11,000	95	53	640	6,800	97
Curvularia	-	7	22	790	19	7	13	230	7
Epicoccum	13	7	13	230	25	7	13	160	20
Nigrospora	160	7	13	210	19	7	13	170	8
Penicillium/Aspergillus types	2,900	27	230	3,000	83	33	210	2,500	85
Stachybotrys	-	7	13	270	3	7	13	280	5
Stemphylium	13	7	13	67	5	7	13	67	9
Torula	-	7	13	130	10	7	13	150	12
Seldom found growing indoors**									
Ascospores	270	13	110	2,900	75	13	110	1,900	71
Basidiospores	19,000	13	370	17,000	93	13	210	7,100	93
Rusts	13	7	13	280	24	7	13	250	28
Smuts, Periconia, Myxomycetes	40	7	53	750	73	8	40	490	70
TOTAL SPORES/M3	26,135								

† The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

‡ The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

*The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

**These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report
Outdoor Summary: 20911001-TM01OUTSM:

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				53	7 - 27 - 400	52
Ascospores				210	13 - 160 - 4,700	76
Basidiospores				13,000	13 - 320 - 16,000	91
Cladosporium				6,200	27 - 530 - 9,100	93
Epicoccum				40	7 - 19 - 320	25
Nigrospora				170	7 - 13 - 210	15
Penicillium/Aspergillus types				2,800	25 - 210 - 2,500	79
Rusts				13	7 - 17 - 310	22
Smuts, Periconia, Myxomycetes				93	7 - 40 - 850	69
Stemphylium				13	7 - 13 - 67	5
Total				22,592		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples
Location: 20911001-TM02SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K >100K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM03SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.3333	dF: 10 Result: 0.7455 Critical value: 0.5515 Outside Similar: Yes	Score: 102 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
Basidiospores				53
Cladosporium				53
Total				106

Location: 20911001-TM04SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Location: 20911001-TM05SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM06SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Location: 20911001-TM07SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.1818	dF: 10 Result: 0.6394 Critical value: 0.5515 Outside Similar: Yes	Score: 102 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
Basidiospores				53
Total				53

Location: 20911001-TM08SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM09SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report
Outdoor Summary: 20911001-TM10OUTSM:

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				13	7 - 27 - 400	52
Ascospores				270	13 - 160 - 4,700	76
Basidiospores				19,000	13 - 320 - 16,000	91
Bipolaris/Drechslera group				13	7 - 13 - 200	18
Cladosporium				3,700	27 - 530 - 9,100	93
Epicoccum				13	7 - 19 - 320	25
Nigrospora				160	7 - 13 - 210	15
Penicillium/Aspergillus types				2,900	25 - 210 - 2,500	79
Rusts				13	7 - 17 - 310	22
Smuts, Periconia, Myxomycetes				40	7 - 40 - 850	69
Stemphylium				13	7 - 13 - 67	5
Total				26,135		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples
Location: 20911001-TM02SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM03SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.3077	dF: 11 Result: 0.7705 Critical value: 0.5273 Outside Similar: Yes	Score: 102 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
Basidiospores				53
Cladosporium				53
Total				106

Location: 20911001-TM04SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Location: 20911001-TM05SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM06SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Location: 20911001-TM07SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.1667	dF: 11 Result: 0.6705 Critical value: 0.5273 Outside Similar: Yes	Score: 101 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
Basidiospores				53
Total				53

Location: 20911001-TM08SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 20911001-TM09SM

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 5.1667 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species Detected		Spores/m3		
		<100	1K	10K
				>100K
None Detected				N/A

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

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Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

Outdoor Sample: 20911001-TM01OUTSM

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
Generally able to grow indoors*						
Alternaria	■				4	53
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium	■	■	■		252	6,200
Curvularia					ND	< 13
Epicoccum	■				3	40
Nigrospora	■				13	170
Penicillium/Aspergillus types†	■	■	■		99	2,800
Stachybotrys					ND	< 13
Stemphylium	■				1	13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††	■				4	210
Basidiospores††	■	■	■		241	13,000
Rusts	■				1	13
Smuts, Periconia, Myxomycetes††	■				7	93
Total						22,592

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Client: Hygiene Technologies International, Inc.:
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Date of Receipt: 11-04-2009

Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM03SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					1	53				102
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					1	53				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						106	Final MoldSCORE			102

Location: 20911001-TM04SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

Client: Hygiene Technologies International, Inc.:
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Date of Receipt: 11-04-2009

Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM05SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE†			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

Location: 20911001-TM06SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE†			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

Client: Hygiene Technologies International, Inc.:
Northern California
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Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report

Location: 20911001-TM07SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					1	53				102
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						53				
							Final MoldSCORE		102	

Location: 20911001-TM08SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A				
							Final MoldSCORE		100	

Client: Hygiene Technologies International, Inc.:
Northern California
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Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM09SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

*The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

**These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

††Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

Outdoor Sample: 20911001-TM10OUTSM

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
Generally able to grow indoors*						
Alternaria	█				1	13
Bipolaris/Drechslera group	█				1	13
Chaetomium					ND	< 13
Cladosporium	██████████				69	3,700
Curvularia					ND	< 13
Epicoccum	█				1	13
Nigrospora	█				12	160
Penicillium/Aspergillus types†	██████████				168	2,900
Stachybotrys					ND	< 13
Stemphylium	█				1	13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††	██				5	270
Basidiospores††	██████████████████				357	19,000
Rusts	█				1	13
Smuts, Periconia, Myxomycetes††	█				3	40
Total						26.135

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13
Total						N/A

MoldSCORE [‡]		
100	200	300 Score
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
Final MoldSCORE		100

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009

Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM03SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					1	53				102
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					1	53				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						106				
							Final MoldSCORE		102	

Location: 20911001-TM04SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A				
							Final MoldSCORE		100	

Client: Hygiene Technologies International, Inc.:
Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009

Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM05SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

Location: 20911001-TM06SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A	Final MoldSCORE			100

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Northern California
C/O: Mr. Wesley Frey
Re: 20911001

Date of Receipt: 11-04-2009

Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM07SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE†			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					1	53				101
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						53				
							Final MoldSCORE		101	

Location: 20911001-TM08SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE†			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A				
							Final MoldSCORE		100	

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Northern California
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Re: 20911001

Date of Receipt: 11-04-2009
Date of Report: 11-05-2009

MoldSCORE™: Spore Trap Report**Location:** 20911001-TM09SM

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores††					ND	< 13				100
Basidiospores††					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes††					ND	< 13				100
Total						N/A				
							Final MoldSCORE		100	

*The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

**These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

†The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

††Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.